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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/551,087

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Elizabeth Ann Payne

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MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER

LARYEA, LAWRENCE N

ART UNIT

PAPER NUMBER

3768

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/551,087	Applicant(s) PAYNE ET AL.	
	Examiner LAWRENCE N. LARYEA	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>01/23/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1,3-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

At Claim 1, recites the limitation "... subsequently selecting signals from a second subset of the plurality of resonators responsive to a comparison between returns received at one or more resonators in the first subset with returns received at one or more resonators in the second subset."

It is unclear how the comparison is done with returns received at one or more resonators in the second subset since one has not selected the second subset yet.

Re Claim 3 recites the limitation "the returns received" , "said other resonators", "said subset".

Re Claim 4 recites the limitation "the correlation coefficient" , "said other resonators", "said subset".

Re Claim 7 recites the limitation "said first resonator"

Re Claim 8 recites the limitation "said second resonator"

Re Claims 13,14 recites the limitation "the plurality of resonators"

Further regarding claims 7,8,13,14, it is unclear if these depends should depend from claim 6.

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Re Claims 20-22 recites the limitation “the resonators”

Re Claims 22 recites the limitation “said first and second subsets”

Re Claim 26 recites the limitation “the application of range gating” subset”

There are insufficient antecedent basis for these limitations in these claims.

Claims 17 and 23 define a transducer arranged to perform the method of **Claim 1**, however **Claim 17** is directed to an apparatus but does not positively recite any structural elements.

At Claims 5-10,15,16, recite the limitations “A method as claimed in 1”. It is unclear what applicant meant by these limitations.

Double Patenting

2. Claim 23 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 17. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. **See MPEP § 706.03(k).**

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-3,5-7** are rejected under 35 U.S.C. 102(b) as being anticipated by **Filler (US Patent 3,561,430)**.

5. **Filler** teaches an ultrasound signal tracking method comprising selecting a first subset of resonators from a plurality of resonators forming a transducer array such that elements of said first subset are in a predetermined physical arrangement relative to a first resonator receiving a return meeting a predetermined condition, and monitoring returns received by each of said resonators in said first subset such that when a return meeting said predetermined condition is received by a second resonator in said subset other than said first resonator, a second subset of resonators is selected in a predetermined physical arrangement relative to said second resonator (**See Figures 4,4a,Col.3 lines 33-45 and Figs 1 and 2**).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 4,8-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Filler** in view of **Moehring et al (US Patent 7,425,198)**

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8. **Filler** teaches an ultrasound signal tracking method, wherein said predetermined condition is a return of signal strength greater than the returns received by said other resonators in said subset (See Fig 4).

9. **Filler** teaches the claimed invention see rejection supra however **Filler** does not teach that the switch operable in response to instructions from a controller to select subsets of said resonators, said controller being operable to select a first subset of resonators from said plurality of resonators such that said first subset is centred on a resonator receiving a return meeting a predetermined condition, said controller being further operable to monitor returns received by each of said resonators in said first subset such that when a return meeting said predetermined condition is received by another resonator in said subset other than that on which the subset is centred, said switch is instructed to select a second, different subset of resonators centred on said another resonator.

10. **Moehring et al** teach an ultrasound signal tracking method/system wherein a switch operable in response to instructions from a controller to select subsets of resonators in order to combine diagnostic ultrasound with therapeutic ultrasound during medical procedures (**See Figures 9-10, Col.3, lines 21-39, Col.12;Col. 13 lines 38-43 and claims 1-8**).

11. It would have been obvious to one having ordinary skill in the art at the time invention was made to modify a ultrasound signal tracking method of **Filler** to include switch operable in response to instructions from a controller to select subsets of said resonators, said controller being operable to select a first subset of resonators from said

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plurality of resonators such that said first subset is centred on a resonator receiving a return meeting a predetermined condition, said controller being further operable to monitor returns received by each of said resonators in said first subset such that when a return meeting said predetermined condition is received by another resonator in said subset other than that on which the subset is centred, said switch is instructed to select a second, different subset of resonators centred on said another resonator in order to combine diagnostic ultrasound with therapeutic ultrasound during medical procedures **(See Figures 9-10, Col.3, lines 21-39, Col.12;Col. 13 lines 38-43 and claims 1-8)** as taught by **Moehring et al.**

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rachlin (US 5,268,876), Seale (US Patent 5,844,140). Tsubata (US Patent 6,447,456),Eckerle et al (US Patent 5,065,765 4,987,900),Gang et al (4,966,152),Vilkomerson (US Patent 5,669,388), Watmough et al (US Patent 4,646,756),Kuroda (US Patent 4,254,662) teach related invention

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAWRENCE N. LARYEA whose telephone number is (571)272-9060. The examiner can normally be reached on 9:30 a.m.-5:30 p.m. EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eric F Winakur/
Primary Examiner, Art Unit 3768